Cattle Gain on Pasture-Finishing

Ranchers who put their beef cattle out to pasture can produce animals that are ready for market, say ARS scientists at the Grazinglands Research Laboratory at El Reno, Oklahoma. They have found evidence that adding a lot more grass to cattle's diet will still produce high-quality beef.

Animal nutritionists William A. Phillips and Samuel W. Coleman have been comparing performance of cattle from similar herds finished for market two ways—either fed on grass with limited grain or fed a high-grain diet, a traditional feedlot practice.

"In the usual system, grain constitutes at least 95 percent of the diet," says Phillips. "In the system we developed, we use as much grass as we can and decrease the amount of grain."

Findings from the 3-year study show beef cattle can be finished as efficiently on grass pastures, with some grain, as they can with mostly grain.

A high-energy diet composed mostly of corn is provided in a covered feeder to give cattle additional energy for fattening. In the grain-on-grass system, cattle make their own dietary choices, deciding how much grain they need, depending on the grass supply.

The ARS scientists finished cattle using wheat pasture and perennial grass pastures, such as Old World Bluestem, millions of acres of which grow in the Southern Great Plains region. They stocked the grass pastures with twice as many cattle as they would normally, to ensure that most of the grass would be consumed.

"As the grass supply dwindled, the cattle ate more of the high-grain diet. Cattle fed grass plus grain needed less feed to reach market weight than herdmates fed in the feedlot," says Phillips.

"Less feed means lower production costs. Under the grain-on-grass system, feed savings were around $25 per animal. With four animals per acre, the producer's grass pasture is worth $100 per acre for finishing cattle. That's a lot more dollars per acre than could be anticipated from other uses of the grass."

"And carcass measurements have been similar between the two systems," says Coleman. "Cattle finished in the pasture reach about the same end weight as those finished in feedlots, but they have about 3 percent less fat.

"Finishing cattle under either system would bring the producer the same amount of money," Coleman says, 'but production costs are lower under the grain-on-grass system."

Regulations require farmers to capture, store, and dispose of the animal waste they generate. Phillips says in their system the cattle distribute the manure over the pasture, where it can be incorporated into the soil and used to fertilize the grass for future growth.

"From an ecological standpoint," says Phillips, "the grain-on-grass system reduces the concentration of animal waste and allows some producers to finish their own cattle without incurring the added cost of waste disposal."

Phillips and Coleman say their system needs further refinement, but they see great opportunities for producers in the Southern Great Plains region to market their cattle more efficiently.—By **Tara Weaver,** ARS.

William A. Phillips and Samuel W. Coleman are at the USDA-ARS Grazinglands Research Laboratory, 7207 West Cheyenne St., El Reno, OK 73036; phone (405) 262-5291, fax (405) 262-0133, e-mail bphillip@grl.ars.usda.gov scoleman@grl.ars.usda.gov

Visit the lab's home page at http://grl.ars.usda.gov ◆